

# **Title 11**

## **DEPARTMENT OF TRANSPORTATION**

### **Subtitle 13 MOTOR VEHICLE ADMINISTRATION—VEHICLE EQUIPMENT**

#### ***11.13.12 Safety Glass Replacement Standards***

*Authority: Transportation Article, §§12-104(b) and 22-406, Annotated Code of Maryland*

### **Notice of Proposed Action**

[21-106-P-I]

The Administrator of the Motor Vehicle Administration proposes to adopt new Regulations **.01—.09** under a new chapter, **COMAR 11.13.12 Safety Glass Replacement Standards**.

### **Statement of Purpose**

The purpose of this action is to adopt new regulations to establish standards and requirements for aftermarket safety glass replacement in order to conform to Ch. 461 (H.B. 519), Acts of 2021.

### **Comparison to Federal Standards**

There is no corresponding federal standard to this proposed action.

### **Estimate of Economic Impact**

The proposed action has no economic impact.

### **Economic Impact on Small Businesses**

The proposed action has minimal or no economic impact on small businesses.

### **Impact on Individuals with Disabilities**

The proposed action has no impact on individuals with disabilities.

### **Opportunity for Public Comment**

Comments may be sent to Tracey Sheffield, Regulations Coordinator, MDOT MVA, 6601 Ritchie Highway, N.E., Room 200, Glen Burnie, MD 21062, or call 410-768-7545, or email to [tsheffield@mdot.maryland.gov](mailto:tsheffield@mdot.maryland.gov), or fax to 410-768-7506. Comments will be accepted through September 27, 2021. A public hearing has not been scheduled.

#### ***.01 Scope.***

*This chapter implements the automotive glass replacement safety standard addressing procedures, education, and product performance for motor vehicles falling within the guidelines of the Federal Motor Vehicle Safety Standard (FMVSS) 208 and 212.*

## **.02 Definitions.**

*A. In this chapter, the following terms have the meanings indicated.*

*B. Terms Defined.*

(1) "Advanced Driver Assistance Systems (ADAS)" means an automated system that enhances vehicle safety and assists in reducing driver error.

(2) "Adhesive bonding system" means an engineered system using chemical products, used together as a technique or process, to bond substrates.

(3) "Anti-pinch mechanism" means a feature that reverses the window or panel direction of travel when resistance is encountered.

(4) "Equivalent retention system" means a system that meets or exceeds the vehicle manufacturer's performance strength specifications or has been certified by the retention system manufacturer or private labeler as appropriate for the specific application.

(5) "Final exam" means a comprehensive exam that evaluates the individual's knowledge and skills, including but not limited to retention-system-specific replacement procedures, a variety of automotive safety issues, minimum drive-away time, environmental conditions as they affect retention system performance, federal safety requirements, and the basics of safe and effective automotive glass replacement.

(6) "Full cut" means removing an existing bead of urethane to a height of approximately 1 to 2 mm wherever the residual bead is structurally sound and the substrate condition is not defective.

(7) "Initialize", "initialization", or "re-initialization" means a procedure that re-establishes proper operation of the intended function.

(8) "Minimum drive-away strength" means the minimum properties as defined and specified by the retention systems manufacturer or private labeler to meet the requirements of FMVSS 208 and 212 as it pertains to glass retention systems.

(9) "Minimum drive-away time" means the time necessary for a given adhesive system to attain minimum drive-away strength after an adhesive bonded glass part is set in place.

(10) "Polyurethane adhesive" means a thermoplastic polymer adhesive produced by the condensation reaction of polyisocyanate and a hydroxyl containing material.

(11) "Private labeler" means any individual or corporation or the entity engaged in sale or distribution of a product labeled as its own, but manufactured by any different entity.

(12) "Recalibration" means the process by which a vehicle's Advanced Driver Assistance System is returned to the vehicle manufacturer's specifications.

(13) "Retention system" means any original equipment or equivalent method of glazing attachment.

(14) "Those engaged in automotive glass replacement" refers to any individual, business, or organization that replaces automotive glass, including but not limited to individual technicians, automotive glass replacement businesses, automotive body shops, and dealerships.

## **.03 Incorporation by Reference.**

*A. In this chapter, the following documents are incorporated by reference.*

*B. Documents Incorporated.*

(1) American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways (ANSI/SAE Z26.1);

(2) 49 CFR §571.205 — Standard No. 205, Glazing Materials (FMVSS 205); and

(3) 49 CFR §571.205 — Standard No. 111; Rear Visibility.

## **.04 Vehicle Assessment Before Replacement.**

*A. Those engaged in automotive glass replacement may not undertake or complete any installation unless first a thorough assessment of the vehicle has been made.*

*B. If, after the assessment made under §A of this regulation, it has been determined that any discovered conditions on the vehicle could compromise the vehicle's retention system, the technician may not undertake or complete the installation. The owner or operator then shall be so notified verbally and in writing.*

*C. If, after the assessment made under §A of this regulation, it has been determined that the vehicle has an ADAS which could require recalibration after any automotive glass replacement, and the technician chooses not to follow Regulation .08I of this chapter, the technician may not undertake or complete the installation. The owner/operator then shall be so notified verbally and in writing. Documentation of customer notification shall be kept as a record in accordance with the provisions of Regulation .08G of this chapter.*

*D. The following vehicles are exempt from this chapter:*

(1) Registered as a Class L historic vehicle;

(2) Registered as a Class N street rod vehicle; and

(3) Registered as a Class K farm area/island vehicle.

## **.05 Selection of Glass and Retention Systems.**

*Those engaged in automotive glass replacement shall:*

- A. Use glass products meeting the requirements of ANSI Z26.1 as required by Federal Motor Vehicle Safety Standard 205;*
- B. Use either an original equipment manufacturer (OEM) approved retention system or equivalent retention system as certified in writing by the equivalent retention system manufacturer directly or through a private labeler;*
- C. Obtain and follow written comprehensive and current application instructions from the retention systems manufacturer or private labeler, including at least:*
  - (1) The proper use of the retention system;*
  - (2) Storage specifications;*
  - (3) Minimum drive-away time charts containing temperature and humidity variables, if applicable; and*
  - (4) Any special procedures required for adverse weather conditions;*
- D. Use only retention systems that have lot numbers and expiration dates printed on appropriate products; and*
- E. Use glass products compatible with the ADAS which may be affected/impacted by the glass replacement.*

**.06 Installation Standards — Adhesive Bonded.**

- A. Those engaged in automotive glass replacement shall follow the adhesive manufacturer's application instructions, as provided by the manufacturer directly or through the private labeler. All in-shop or mobile installations shall be performed under environmental and other conditions that are compatible with the application instructions required in Regulation .05 of this chapter.*
- B. Products shall be stored and controlled according to manufacturers' requirements as provided directly or through a private labeler.*
- C. No automotive glass replacement shall be undertaken using an adhesive glass retention bonding system that would not achieve minimum drive-away strength by the time the vehicle may be reasonably expected to be operated.*
- D. The vehicle owner/operator shall be notified prior to and after the installation process of the minimum drive-away time under the circumstances of the replacement.*
- E. Adhesive shall be applied so that the finished bead cross-section profile and dimensions meet or exceed the original equipment configuration or recommendation of the adhesive system manufacturer.*
- F. If the OEM installation was polyurethane, then the glass shall be replaced with polyurethane or an equivalent adhesive bonding system. If the OEM installation was butyl, polysulfide, or other non-polyurethane, and the vehicle is licensed for highway use, adhesive bonded stationary glass installations shall be performed using polyurethane or an equivalent retention system unless in conflict with current OEM specifications.*
- G. All adhesive system component lot numbers shall be traceable to each job.*
- H. All glass parts shall be traceable to the installation by a DOT number and part number.*
- I. No product that has exceeded the manufacturer or private labeler's stated expiration date, open shelf life, or active shelf life shall be used.*
- J. All supplemental mechanical glass retention devices shall be replaced to original equipment specifications.*
- K. When inappropriate replacement materials or methods are detected, those engaged in an automotive glass replacement shall report their findings to the vehicle owner or operator.*
- L. When those engaged in automotive glass replacement correct inappropriate glass installations, they shall remove any inappropriate materials that would compromise the retention system. They shall fully correct any adverse glass installation related conditions caused by the use of inappropriate materials or methods, and they shall use appropriate methods pursuant to Regulation .05 of this chapter.*
- M. When sealing air or water leaks within a polyurethane retention system, only compatible polyurethane adhesive shall be used. No silicone or butyl may be used.*
- N. Only the full cut method should be used for polyurethane retention systems.*

**.07 Installation Standards — Rubber Gasket.**

- A. If the OEM utilizes the combination of a rubber gasket and polyurethane as a retention system, an equivalent adhesive bonding system shall be used in the installation. In cases when the OEM did not include polyurethane or an equivalent adhesive system, such systems shall be used if later production models included the addition of adhesive systems without body style modification.*
- B. If the OEM gasket installation did not include adhesive and the vehicle is licensed for highway use and is less than 10,000 pounds gross vehicle weight, the installation shall include polyurethane or an equivalent adhesive bonding system. The following vehicles are exempt:*
  - (1) Registered as a Class L historic vehicle;*
  - (2) Registered as a Class N street rod vehicle; and*
  - (3) Registered as a Class K farm area/island vehicle.*
- C. When sealing air or water leaks within a rubber gasket or polyurethane adhesive system, only compatible polyurethane shall be used. No silicone or butyl may be used.*

**.08 Additional Requirements.**

- A. All mechanically fastened automotive glass parts shall be replaced according to original equipment specifications.*

*B. Glass parts, including custom cut parts, shall be marked in compliance with the certification requirements specified in FMVSS 205 and the marking requirements of ANSI Z26.1, incorporated by reference in Regulation .03 of this chapter, for those vehicles licensed for highway use.*

*C. Those engaged in automotive mirror replacement shall install external and internal replacement mirrors that meet or exceed original equipment specifications and the requirements of 49 CFR §571.111 — Standard No. 111; Rear Visibility.*

*D. Whenever OEM retention systems are modified on later production models without body style modification, the most current retention system shall be used in the replacement unless otherwise specified by the OEM.*

*E. Notification of Defective Product.*

*(1) A failure or defect in any product used or intended for use in the automotive glass replacement process that could jeopardize customer safety shall be reported promptly to the manufacturer or supplier of the product.*

*(2) Any product installed by those engaged in automotive glass replacements that is discovered to be defective or capable of jeopardizing customer safety shall be immediately reported to the customer with an offer to remedy the situation.*

*F. Those engaged in automotive glass replacement may not introduce any chemical agents, such as cleaners, solvents, lubricants, or release agents, or utilize any installation practice that will adversely affect the glass retention system.*

*G. Those engaged in automotive glass replacement shall create and retain records of each auto glass replacement for a period of at least 3 years from the date the work was completed sufficient to demonstrate compliance with this standard. Records, either electronic or hard copy, shall be legible, easily identifiable, and readily available. The 3-year period may be temporarily shortened for specific, clear, and substantial reasons, but shall be adhered to when such reasons no longer exist.*

*H. Those engaged in the repair, removal, or replacement of motorized windows and/or panels in automobiles that are equipped with anti-pinch mechanisms shall reset, initialize, and/or confirm their proper operation before the vehicle is released to its owner/operator. If the reset operation cannot be completed for any reason, the vehicle owner/operator shall be informed verbally and in writing of the failure to reset the system. In addition, the owner/operator shall be instructed to seek out a facility equipped to reset the system. The replacement glass installer is not responsible for the selection of any reset facility. Documentation of customer notification shall be kept as record pursuant to § G of this regulation.*

*I. If the vehicle has an ADAS, it may require recalibration after any automotive glass replacement. Only trained personnel who elect to provide recalibration services may complete the recalibration, and only if they obtain and use proper equipment and provide the outcome of the recalibration to the owner/operator. If these conditions cannot be met, or if the automotive glass installer does not provide recalibration services, the owner/operator shall be advised prior to and at the completion of the installation that:*

*(1) The vehicle has an ADAS;*

*(2) After automotive glass replacement, the vehicle may require the recalibration of the ADAS;*

*(3) The replacement glass installer will not recalibrate the ADAS;*

*(4) There are locations where recalibration may be obtained; and*

*(5) The replacement glass installer is not responsible for the selection of any recalibration location.*

#### **.09 Education.**

*A. Technicians installing replacement automotive glass shall be fully qualified for the tasks they are required to perform. Such qualifications shall include, at a minimum, completion of a comprehensive training program, at least 3 hours every 3 years, with a final exam and an ongoing education component. The program shall include, among other things:*

*(1) Automotive glass replacement safety issues;*

*(2) An understanding of OEM installation standards and procedures;*

*(3) Relevant technical specifications;*

*(4) Adhesive system manufacturer specific comprehensive retention system training; and*

*(5) The opportunity to apply and demonstrate the skills technicians learn.*

*B. Training with respect to the content and requirements of the current version of ANSI Z26.1 shall be required for all personnel directly involved in the automotive glass replacement process and may include, for example, scheduling, purchasing, installing, customer service, quality control, and management. Records of this training detailing content, date, participants, and acknowledgment of the participant's successful completion of the training and receipt of a printed copy of the current standard shall be maintained.*

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